Laboratory Manager Approval: Shene A. Jones / 08/19/2021

QA Manager Approval: Jeffrey Moore / 08/19/2021

Metals Data Validation

Access to this SOP shall be available within the laboratory for reference purposes; the official copy of this SOP resides on the official Georgia EPD website at https://epd.georgia.gov/about-us/epd-laboratory-operations. Printed copies of this SOP will contain a watermark indicating the copy is an uncontrolled copy.

1. Scope and Application
This procedure details the steps necessary to ensure that all data reported by the laboratory complies with the Quality Assurance Plan. It requires that all Supervisors and Scientists meet the requirements of the Standard Operating Procedure before submitting the data for validation.

2. Definitions – Refer to Chapter 3 of the Georgia EPD Laboratory Quality Assurance Manual for Quality Control Definitions.

3. Interferences
Not applicable

4. Safety
Not Applicable

5. Apparatus and Equipment
Not applicable

6. Reagents
Not applicable

7. Sample Collection
Not applicable

8. Calibration
Not applicable

9. Quality Control
Not applicable

10. Procedure

10.1 Personnel Responsibility

10.1.1 Scientists and Technicians – All scientists and technicians will review the relevant references and laboratory SOP for the method of interest. Differences between the promulgated method reference and the laboratory SOP will be brought to the attention of the Laboratory Manager or Supervisor. The Scientist or Technician should verify all method requirements are met before submitting the data for validation.

10.1.2 Supervisors – Laboratory Supervisors will review the data package to verify that all QC requirements are met. Completeness and accuracy of Labworks entries will be checked and documented.

10.1.3 Managers – Laboratory Managers will ensure all requirements of the SOP are met for each laboratory Supervisor and Scientist in the laboratory. Managers will carry out the requirements of sect. 10.1.2 for Supervisors in the laboratory and for scientists and technicians in the Laboratory Supervisor's absence.

10.1.4 Quality Assurance Officer – The Quality Assurance Officer will review a percentage of the data to ensure that all data quality objectives are met.

10.1.5 Program Director – The Program Director will ensure complete adherence with the SOP and confirm requirements for data validation are maintained through out the laboratory Program.

10.2 Analyst Review

10.2.1 During the analytical run, the analyst should be reviewing calibration and QC samples to ensure that all method requirements are met. Any failures should be reported to the supervisor the same day the failure occurred. A corrective action from is generated as necessary.

10.2.2 Analysis that meets QC requirements is transferred into Labworks.

10.2.3 The analyst submits to the peer review a data package consisting of (in this order):

- 10.2.3.1 Checklist
- 10.2.3.2 Both QC reports
- 10.2.3.3 Any CA forms
- 10.2.3.4 Run log
- 10.2.3.5 Data

10.2.4 The peer reviewer submits the data package to the supervisor.

10.3 Supervisor Review

10.3.1 Ensure that the LDR, MDL, and interference studies are current.

10.3.2 Ensure that the scientist/technician has a current IDF and CDF for the method and matrix analyzed.

10.3.3 Verify that all samples in the batch were analyzed.

10.3.4 Verify that all samples are within holding times and preserved correctly.

10.3.5 Verify that all standards related to the sample preparation and analysis are recorded and none have expired.

10.3.6 Verify that data pack is complete:

- 10.3.6.1 Checklist
- 10.3.6.2 Both QC reports

10.3.6.3 Any CA forms
10.3.6.4 Run log
10.3.6.5 Data

10.3.7 Review the original sample prep form (batch sheet for DW samples, digestion sheet and percent solids for all others). Initial the original prep form, make a copy, return the original to the logbook, and place the prep form immediately behind the check list in the data pack.

10.3.8 Verify that the instrument was tuned or profiled, and calibrated correctly.

10.3.9 Verify that corrective action forms were filled out if needed, and any required sample or analysis comments were made and are correct. Initial the original corrective action form;,keep the copy with the data pack.

10.3.10 Review the data. All manually transferred data must be checked in Labworks, check 10% of electronically transferred data in Labworks.

10.3.11 Validate all analysis.

10.3.12 Validate completed Drinking Water samples that you report.

10.3.13 Initial and date the original run log.

10.3.14 Place one set of QC reports in the designated area to be forwarded to the QA Manager.

10.3.15 File the data in chronological order.

10.4 Manager Review.
The Manager will review all hazardous waste prior to validating.
The Manager will monitor data quality and integrity by reviewing the final data on a project level of all other samples.

10.5 Report Generation
An over all validation of the sample will be performed by the Manager or Supervisor prior to printing the report.

11. Calculations
Not Applicable

12. References

12.1 Standard Methods for the Examination of Water and Wastewater, 18th Edition.
12.2 Test Methods for Evaluating Solid Waste. Physical/Chemical Methods, SW846, 3rd Edition.
12.3 EPD DNR laboratory QA Plan, online revision.

13. Reporting Limits (RLs), Precision and Accuracy, and Quality Control Approach
Not applicable